11-1-79

Hi Bob,

SORRY IT BEEN SO LONG SINCE IVE WRITTEN! I WANT TO RENEW THE NEWSLETTER, which is very informative! Excellent I congradulate you & your staff. I only wish I could Contribute something! The Schematics I sent you will & DO WORK, but I am too bussy to proto type - You are free to reprint or use any info I sent you If you have any questions please don't hesitate to call or write! The WR. RD situation is set to constantly Read and only negated with WR Command. instead of leaving these levels set at ϕ, this will help when Wirewrapped so no garbage will be picked in to RD. or WR DATA Addl lines,

Also I still have the Local Batto Club with 15 Members & 4 additional members this week, I went in the hole last year in Mailing everything & purchased from you or Bob Weber, or anyone & reproduced & Mailed out with Bobs, permission of course - I have absoultly NO Help or Support! FROM anyone. Ive almost given up! I am sorry I have nothing to add! especially Better Basic or keyboard. My help & two engineers at Beth Steel decided to DESIGN & Build their own Z80 Equip Using S-100 & Cremeuro Equip. So they Scrapped MY projects. Thats life I am NO engineer or very good at Machine language, and of No real Service to you or the Club. I AM Sorry. But I really trayed & but out quite a bit of Money & endless hours, hope theres no hard feelings -

I've had an APPLE II for 8 month now I just purchased a DISK. drive for it a month or so ago. Also I work part time for Computers Unlimited Towson Md an outhorized Dist / Dealer for Apple II, TI 99/4, Sorcer, & Compu Color II, I do all apple repairs, and work on IDS, Trencom, Centronics printers, I've got a lot to learn. I think Appk II is so ~~with~~ well documented & Supported I am glad I decided on apple I use APPLOT TEXT editor ~~o~~for letters, and Mailing lables. So I've really spent little Time lately on Bally programs, or hardware! I hate to just drop Bally, but I am so discusted with BALLY Decision. TI's computer. for $1[illegible]50 Sure has a lot to be desired, and a great disappointment to everyone! ATARI will sure give APPLE II a run for its money, Bally as far as I am concened Just dropped the Ball, FCC or not they sure let their customers down. At least as far as letting US individually know, Iit Wasen't for you we all Would Be in the dark! I wish You Continued Great Sucess. And hopefully ~~all~~ Sll be able to help somehow! Again hope theres no hard feelings but I try to do too Much and spend No time for Me! God Bless Take Care hope to hear from You!

Sincerely

Dick Bolton

5-29-79

Hi Bob,

Enclosed is a copy of one of OUR LOCAL Newsletters that might interest the ARCADIAN Club. Ive really been after BALLY to find out What they plan to do! Also Mr. VOLLMER, had Called me, I dont think he liked the Idea I Wrote him a nasty letter, and that I wrote all the Magazines, who advertised BALLY ARCADE Main article in particular by Karl L. ZINN of Creative Computing Sept/Oct 1978 Where they described the Bally home Computer with Plug in Basic, I & told Creative Computing about the Conversation I had with Bally secretarys, No one is ever in, I couldn't get Technicial Assistance, or any coroperation for that matter, and Ive been trying Since Nov, Calling at least once a week. I asked Creative Computing to try and help us with our Clubs efforts through your self in Calif, and perhaps Me, east Coast!, that I was Sure there are enough people Who have Bally, but are still unaware of our efforts to help them along ect ect.... And Ive never heard from any of the Magazines Ive Written to. What do you think about Creative Computing helping Us With Listings (Programs) hard Wear, Maby Creative Computing could Sell Software Tapes or What ever. I sure wish I could spell or even type for that matter. I sure hope you can read this chicken scratch.

Ive been in contact with Bob Weber & Family by mail, and also by phone. He sure is informative and must Live, eat & Breath BASIC. Ive told him about My Memory Expansion of up to 48K of

Static RAM and he was very interested he has some pre-made boards with the same chips that I used on my expansion Module.

Speaking of Expansion I have completed Schematics, for from 1K to 16K of STATIC RAM EXPANSION the expansion is fully Buffered using 8T97 Tri state buffers, 8T28 tristate buffers for $\overline{RD}$, $\overline{WR}$ asecss, $\overline{MREQ}$ DATA Line, & Busack Are Also buffers, and for the Add line Decoder to Make the next start address to go to 20480 are a pare of 74LS138 Whose address outputs are set for 21504, 22528 23552, 24576, 25600, 26624, 27648, 28672, 29696 30,720, 31744 Which is up to 12K RAM, 8T28 Decode D0-D3 output of 2114 the unit will be hand wire wrapped on Vector board to start with I hope to get it Layed out, so I can Make one or perhaps two plug in TYPE PC Boards. The Unit Must not Tie in to the Arcades +5 Buss, It must have a seperate +5V@4A powsupply. of its own, Also all inverted Tri state output Must be clamped to +5V using 2.2K 1/2w resistors & So Far on paper there isn't any reason I, or any one else who's looked at the schematics, it Shouldn't work. Like I've told you before I work 6 to 7 days a week at Beth Steel, I do TWO WAY Radio, TV, stero, JUNK ANYTHING repairs and Iam Swamped with Work. Well I've decided to quit all outside repair work. I've almost got My Shop Cleaned out, And hopefully by the end of June I'll be on the Bally project full time Most all 99% of this work so far has been at Work, an hour or so a day So you can See

I can get all the address locations - they will be in hex if you or anyone ~~#~~ else is interested!

5-29-7

Why its taken me so long. Also Ive built a ROM reader, example Clowns & Brickyard only take up 2048 address locations of 4K ROM which are 9316, the same as 2332. (the μPD2332 by Microcomputers Inc. Its a 4096 W x 8 Bit organized or same as TI TMS 4732 pin for pin, Now I can program ROM's For the bally presently I am working on 2 Level Chess With Full Screen Chess board. the screen Memory & location have got me bogged down right now! Also Bally Basic is only 4086 bits x 8, I Was thinking of using the same T-BASIC Palo Alto & Making Basic II in conjunction with an ASCII Key board, in this way by TYPING in everything, example Use RETURN for GO, TYPE IN AUTO 10 - to start Line # to Auto by 10, and full SYNTEX Monitor Assembler disasembler in 3 ROMS, all in one package the output of this could plug in to the front Cassette holder. a Friend at work is now working on ~~Bo~~ Possibility of the ROMS ASCII to bally interface, I am not doing this part his Name is Larry Plumhoff, Also Dick HANSSEN whom I work with is working on decoding all the ROM cartavages, ~~ex~~ especially the BASIC

Bally could have made up to 8K of BASIC And Chess, right now as the game sits, is a good posibility, I was going to tie in an ASCII keyboard Parallel to the on board Keyboard unising the Shift key perhaps as words, or what ever. in My reasearch this wouldnt accomplish Very Much. in any form of expansion it would give the same capabilities but allow us to type I cant type so I like the Key board the ~~way~~ now it is Right ~~now~~. besides if you are going to add-on you might as well add all you Can. the first time. And a Basic II ROM

to me would be better. the only difference it would be Interger & Floting point perhaps 3to4 sig dig. & power of 10⁻ And full ASCII characters you Would have to type in PRINT IF ect, No WORD statements, The outcome would be similar to Apple II, sure with they would have Used Z80, instead of 6502.

As soon as we get it working I'll let you know, I will, or should I say I intent to build & Sell units, but if it's to time consuming I'll MAKE up a fully documented Kit, or Just the Book, with all wiring, all schematics all pin outs I/O - & perphevial info Levels, and how to tie in, how and when to Clamp ect. ect. Load line capabilitys everything that will help. I would like to give you Schematics, but if I do. I dont want them published at least Not yet. I think I'll sell copies, what do you think, I want to help out put I and several other people have put in hundreds of hours. on this I think I Would rather give them out after My proto TYPE sells. I don't know what to do. Will this infringe on Bally TM rights, or what. is there any leagal problems to Selling, of prints information, and Modules, As long as they come are My Ideas & I give credit to everyone who helped & where I got some of the Tech DATE pinouts ect. ect. I could use Some advice on this Matter. Let me know, if you have time to write.

I have had only one person respond by Sending Me a program Prime Tester by L. Gubernatis from 57 programs & games. Also DON CHAIT has been very helpful. He is Also working on an expansion

module- Similar to mine, he said he is having problems with overheating on his bally. He took it out of the Plastic Box - And built it in a Medal Box with Bigger P/S Pow Supply & A FAN HE is Trying to Add Apt both IEEE 50 pin out or S-100 - I haven't heard anything lately however, 5-29-9

By the Way the IEEE 50 pin Expansion Connector is the Same as the expansion Port Connectors on My Apple II .1" on center 50 pins, the PET uses IEEE output port, but I think the pin Spacings are different a bit wider.

I am Sure glad your newsletter has gotten Some Support, I guess you have a lot of local help! I just can't understand why Bally hasn't gotten on the Software band Wagon they could come out with Tapes, or even another book.

Enclosed is a schematic of Light pen, which Works when you use 8(14) 8(15) & Make them equal to 00 on the screen then Make a Flashing Box 0, 0 1, 1, 2 & 3 on the screen use the pen & turn the Box on & off. Also you could Use this to play TIC TAC TOE, or have a flashing Cursor at the end of a page to go to the next page use the Light Pen. I built it on a Very small piece of perf board that fit into a MAGIC Marker Case Drilled out the end for the Light Photo Cell. Also the Adj is for Room Light Ncll. And Screen Light Sensitivity. I will send Complete Pictorial LAY outs with wiring & Various Part # if you think any one would be interested.

TIC TAC TOE

I guess I've gotten very lazy I've tryed to give out all the info possiable, and yet no one Seems to want to help. I get Calls on not.

being able to get programs to run. ect. ect. but No one hascome up with any program Ideas. Other than the ONE mentioned here. I am about to give up. I put in quite a few hours a night on this club, you Must Spend a great deal. And from the looks of the Newsletters your getting better, and better. Ill try to contribute, but my patients is wearing thin, As long as you do all the work like Yourself. people just sit back & wait for your enterprises. Than they want them for NOTHING. Do you know What I mean. Well I cant think of anything Else. Except Keep up the great Work. Itold Mr. Vollmer. if it wasn't for you we would be NOwhere - Bally Steve doesn't Care, After all we are only the people Who went along & purchased the Arcade! With out the Consumer. Where would the Arcade be. Still on the DWG BOARD! Good Luck. Hope to hear Something from you and again please excuse this Mess. I hope you can read it!

Sincerely

Dick Belton

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